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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,509	07/10/2003	Masaru Amano	YAF-025-US IWA.006	1780

21254 7590 04/26/2005
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EXAMINER

TRIEU, THERESA

ART UNIT	PAPER NUMBER
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3748

DATE MAILED: 04/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/616,509

Applicant(s)

AMANO ET AL.

Examiner

Theresa Trieu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,3,6-11,16-20 is/are rejected.
- 7) ☒ Claim(s) 4,5 and 12-15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/10/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Receipt and entry of Applicant's Preliminary Amendment filed on July 10, 2003 is acknowledged.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 3 and 11 the use of alternative expression "or " renders the claims indefinite because the alternative choices are non-equivalent.

Claim 1, the term "a large clearance" renders the claims indefinite, because it is unclear how large it is, as applicant has claimed.

The claims not specifically mentioned are indefinite since they depended from one of the above claims.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 9 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by any one of Taniguchi (Patent Number 4,976,595) or JP reference (Publication Number JP 64-056589).

Regarding claims 1, 2, 9 and 19, Taniguchi (as shown in Figs. 3 and 4) or JP reference (as shown in Figs. 1-4) discloses a trochoidal pump characterized in that an inner rotor (18 in Taniguchi; 1 in JP reference) and an outer rotor (20 in Taniguchi; 2 in JP reference) having trochoidal toothed shapes are provided in a mutually intermeshing state, in such a manner that a tip clearance (T_1 in Taniguchi; 3a in JP reference) is created between each tooth crest of the inner rotor and the outer rotor, a large clearance (not numbered; however, clearly seen in Figs 3 and 4 in Taniguchi; S_2 , S_3 in JP reference) forming a large interval being provided in at least one location of the group of the tip clearances; the number of teeth of the inner rotor (1 in JP reference) being six or more, and a large clearance (S_2 in JP reference) is formed between the inner and outer rotors, on the plurality of tooth crests (3 in JP reference) of the inner rotor, at least at every other tooth position; the large clearances d_1 being formed by retracting the circumferential edges of either tooth crests (3 in JP reference) of the inner rotor (1 in JP reference) or tooth crests (4 in JP reference) of the outer rotor (2 in JP reference).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 3, 6-8, 11 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi '595 in view of design choice.

Taniguchi discloses the invention as recited above; however, Taniguchi fails to disclose the large clearance being arranged in a uniform or non-uniform fashion on appropriated tooth crests of the teeth; and a plurality of the large clearance have the same or different interval dimension.

It is examiner's position that one having ordinary skill in the pump art, would have found it obvious to utilize the large clearance being arranged in uniform or non-uniform fashion and a plurality of the large clearance have the same or different interval dimension, since they are merely design parameters, depending on temperature, pressure, or stress acted/applied on the inner/outer rotors or depending on the output required by the load being driven or depending on being used for a particular purpose or solving a stated problem. Moreover, there is nothing in the record, which establishes that the claimed uniform or non-uniform fashion of the large clearance and a plurality of the large clearance have the same or different interval dimension, presents a novel of unexpected result (See *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975)).

4. *Claims 10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP reference '589 in view of design choice.*

JP reference discloses the invention as recited above; however, JP reference fails to disclose the large clearance being formed by retracting the circumferential edges of both tooth crests of the inner and outer rotors.

It is examiner's position that one having ordinary skill in the pump art, would have found it obvious to utilize the large clearance being formed by retracting the circumferential edges of both tooth crests of the inner and outer rotors, since they are merely design parameters, depending on being used for a particular purpose or solving a stated problem. Moreover, there is nothing in the record, which establishes that the claimed uniform or non-uniform fashion of the large clearance being formed by retracting the circumferential edges of both tooth crests of

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the inner and outer rotors, presents a novel of unexpected result (See *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975)).

Allowable Subject Matter

5. Claims 4, 5 and 12-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior Art

The IDS (PTO-1449) filed on October 10, 2003 has been considered. An initialized copy is attached hereto.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of five patents: Rao et al. (Patent Number 5,554,020), Vickers (Publication Number AU 20,406), Saegusa (Publication Number EP 99,950), Niwa (Publication Number JP 61-210282), and Taniguchi (Publication Number JP 02-095788), each further discloses a state of the art.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa Trieu whose telephone number is 571-272-4868. The examiner can normally be reached on Monday-Friday 8:30am- 5:00pm. The new telephone number is 571-272-4868 that will become effective after November 22, 2004.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E Denion can be reached on 571-272-4859. The new telephone number is

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571-272-4859 that will become effective after November 22, 2004. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TT



Theresa Trieu
Primary Examiner
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